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(1) Introduction

After much anticipation, the Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) was adopted at the third Conference of the Parties (COP-3) in Kyoto, Japan. The protocol, for the first time in history, establishes legally-binding reduction targets for all major greenhouse gases (GHGs). As such, it represents a major step forward in the international efforts to avert the threat of climate change. After a long and exhausting negotiation marathon, COP-3 adopted differentiated targets for industrialized countries, which were 5.2 per cent on average, for the commitment period from 2008 until 2012. The Kyoto Protocol furthermore introduces several novel "flexibility instruments," including joint implementation (JI), emissions trading, and a new Clean Development Mechanism (CDM) for project-based cooperation with developing countries.

It is not clear, however, how soon the Kyoto Protocol will enter into force because of its rather high ratification threshold. The protocol contains a "double-trigger," which requires not only a certain number of ratifications, but also the reduction of a certain percentage of emissions before it enters into force. As a result, the United States de facto has a veto. This situation is further exacerbated by the fact that the ratification process in the US Senate is sure to be slow and cumbersome. Furthermore, the protocol is characterized by a high number of unresolved issues. Its ratification, therefore, will depend on the successful outcome of follow-up negotiations in the years to come.

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This report will first provide a brief account of the political developments that led to the adoption of the Kyoto Protocol. Second, it will provide a preliminary analysis of the Kyoto Protocol itself, and, third, it will assess the prospects for the further development of international climate policy and law in 1998 and beyond. Developments outside of the Kyoto negotiations will be included to further elucidate the actual international negotiations.

(2) Political Developments

The adoption of the Kyoto Protocol on the afternoon of 11 December—one day after the official closure of COP-3—resulted from the large amount of political attention that climate change had received during 1997. This attention was not so much a result of the three meetings of the AGBM (Ad Hoc Group on the Berlin Mandate) that were held in March, August, and October. Rather, it resulted from the elevation of the climate negotiations to the agenda of the Denver Summit of the G-7/P-8 (Denver Summit of the Eight) and the UN General Assembly Special Session on Progress Achieved Towards Meeting Objectives of the Earth Summit (UNGASS), both held in June.

At the Denver Summit, Prime Minister Hashimoto of Japan realized, for the first time, the importance and seriousness of the climate change issue and, consequently, the potential political gain or loss for his country depending on the outcome of COP-3. At the UNGASS, President Bill Clinton of the United States took a tough stance on climate change, despite the fierce opposition of the US Republican Congress and the fossil fuel industry. These groups responded in full force to this challenge. The fossil fuel industry sponsored a $13 million advertising campaign warning against the serious adverse economic consequences of any legally binding agreement, due to the fact that only industrialized countries would assume legally binding targets. The Senate responded by unanimously adopting the "Byrd-Hagel" resolution, which emphasized the validity of the Intergovernmental Panel on Climate Change (IPCC)'s findings, but stated that the United States should not sign any protocol that mandates new commitments for developed countries without mandating "new specific scheduled commitments" by developing countries to limit GHG emissions "within the same compliance period" as developed countries.

In hindsight, these efforts appear to have backfired because they elevated climate change considerably in the public debate and because they compelled President Clinton to deal with the issue as a top priority. This, in turn, gave the issue a much higher level of visibility internationally and triggered a considerable amount of pressure from the US, Japan, and some European countries on the Organization of Petroleum Exporting

Countries (OPEC) countries, especially Saudi Arabia and Kuwait. Before COP-3, few would have imagined that the Kyoto Protocol could have been adopted so smoothly. Even more surprising was the fact that these countries did not use the power conferred upon them by the consensus requirement for the adoption of protocols. Furthermore, Vice-President Al Gore flew to Kyoto at the beginning of the last week of negotiations and instructed the US negotiators to "show increased flexibility." Chief negotiator, Stuart Eizenstat, had already reflected this new approach in his first intervention and, in the end, the US accepted a higher reduction target than the original stabilization target proposed by President Clinton.

The negotiation process itself had already been given a major boost in March, when the European Community's (EC) Environment Council had adopted a common target proposal and agreed on an internal burden-sharing arrangement. The EC proposed a 15 per cent reduction target in 2010, from 1990 levels, for the emissions of a basket of three gases (carbon dioxide, methane, and nitrous oxide). Later in July, the EC environment ministers were able to agree on a 7.5 per cent reduction target from 1990 levels for the year 2005. With these figures, adopted by one of the major players, placed firmly on the table, a serious process of negotiation became possible. It took several months, however, for the US, Japan, Canada, and New Zealand to propose their own reduction targets. The Japanese proposal, which amounted to a 2.5 per cent reduction, on average, of three gases, proved to be particularly innovative because it contained a formula for the differentiation of obligations. However, only the stabilization of emissions was meant to be legally binding in the Japanese proposal.

The formal elaboration of the negotiating text was promoted by the chair of the AGBM—the Argentinean ambassador to China, Raul Estrada-Oyuela, who proved to be one of the most important individuals in the process. With the help of the UNFCCC Secretariat, he compiled several versions of the negotiating text, which was to be gradually refined over time. The first compilation of proposals, more than one-hundred pages long, was presented to the AGBM 6 in March. Governments instructed Ambassador Estrada to compile a negotiating text before 1 June in order to meet the six-month deadline required by Article 17.2 of the UNFCCC. After the seventh meeting of the AGBM (AGBM-7), which was held in August, a revised negotiating text was presented to the parties of the AGBM-8 in October. However, the real negotiations were conducted by Estrada behind the scenes. Several delegations, among them the EC, the US, and the Alliance of Small Island States (AOSIS), expressly urged the chair at the close of AGBM-8 to continue seeking a solution and to "prepare alternative text." No

one should have been surprised, therefore, that the text, which was finally agreed upon in Kyoto contained surprises for almost everyone.

(3) The Kyoto Protocol

The most important issue of the Kyoto Protocol was certainly the reduction targets for industrialized countries and their design, timeframe, and scope. Equally important, however, were the so-called "flexibility" instruments in the protocol, which provided much desired flexibility and innovation, but which also had the potential to weaken the targets considerably. The commitments of developing countries were not covered by the Berlin Mandate, and those parties succeeded in keeping even voluntary commitments out of the Kyoto Protocol. The parties to the UNFCCC furthermore agreed on policies and measures that would be implemented individually by Annex I parties.

(A) Legally Binding Reduction Targets

For those industrialized countries listed in Annex B, the Kyoto Protocol to the UNFCCC contains legally-binding, differentiated reduction targets for a basket of six gases (including two groups of gases) that are supposed to amount to an overall reduction of at least 5 per cent in the commitment period from 2008 until 2012 (Article 3.1). It is important to note that these targets are legally binding as opposed to taking the soft law approach taken by the UNFCCC and advocated by some countries prior to COP-3. There was a clear understanding by almost all parties—industrialized and developing alike—that a voluntary approach had proven to be inadequate and that hard, verifiable, and enforceable obligations were absolutely necessary for the next stage.

The commitment period of five years was originally proposed by the US under the term "budget period." It is designed to avert the difficulties that a single-year target may pose due to fluctuations in economic performance or certain extreme weather conditions, and to provide parties with additional flexibility. Each party's allowable emissions, set out in Annex B to the protocol, are multiplied by five for the five-year commitment period. Overshooting the target in a single year therefore becomes irrelevant. After the EC had accepted the concept of a budget period, its attempt to push for an earlier commitment period, from 2003 until 2007, failed. The only concession that the EC received from other industrialized countries was a soft provision in Article 3.2 that "each Party ... shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol." There are, however, no indicators yet to measure the achievement of this target.

The reduction target does not follow the single gas approach that was favoured by some parties, such as Germany, but instead places four gases and two groups of gases, which are contained in Annex A to the protocol, in a so-called "basket." The reduction targets must be achieved for the basket as a whole. Since the respective radiating forces for each of these gases is different, the global warming potential for each gas, as determined by the IPCC, is used to calculate the overall obligation. The US succeeded in its attempt to have all major GHGs included in the basket, as opposed to the European and Japanese "three gases" approach. In addition to the main gases, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), the basket comprises sulphur hexafluoride (SF_6) and two groups of industrial gases, hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Although 1990 remains the baseline for the three main gases, as a concession to Japan, the protocol provides that any party may use a 1995 baseline for calculating the emissions of the other gases.

Negotiations regarding the "flat rate" target, with a uniform obligation for all industrialized countries, proved to be very difficult. It was not until the first week of negotiations in Kyoto, however, that the chair proposed a list of differentiated targets for certain groups of countries. Only the targets set for the US, the EC, and Japan follow a certain logic. By contrast, the targets for most other parties are based primarily on pledges or a "willingness to pay." Those targets that allow an increase in emissions, which include an 8 per cent increase for Australia, a 10 per cent increase for Iceland, and a 1 per cent increase for Norway, are mainly the result of intransigence, *chutzpah,* and tough negotiating on the part of those countries. Other instances of tough negotiating are reflected in the obligations to merely stabilize emissions of New Zealand, Russia, and the Ukraine. The main industrial polluters, however, have assumed reduction obligations. The EC and its member states as well as most Eastern European countries must reduce GHG emissions by 8 per cent, the US must reduce by 7 per cent, and Canada and Japan must reduce by 6 per cent. Exceptions were granted to three Eastern European countries: Hungary and Poland have to reduce by only 6 per cent and Croatia must reduce by 5 per cent.

The reduction targets agreed upon in the Kyoto Protocol should, however, not be taken at face value. Their value is diminished by the fact that sinks have been included in the inventories. The term "sink" is commonly used to refer to the uptake of GHGs by forests, soil, and other natural elements. This issue was among the most hotly debated in the lead up to COP-3. While the issue of sinks had already been addressed by the UNFCCC and always loomed in the background during the two-and-a-half years of AGBM negotiations, it was not until the AGBM-8 in October that the issue was finally

discussed in earnest. Due to the high level of uncertainty regarding the uptake of GHGs, many delegations felt that their inclusion into the inventories was premature. The final compromise allowed for the inclusion of net changes in GHG emissions resulting from direct human-induced land-use change (limited, at first, to afforestation, reforestation, and deforestation since 1990, according to Article 3.3). The organs of the UNFCCC are requested to consider adding other activities to this list, drawing upon further work by the IPCC.

The inclusion of sinks might one day be considered to be the biggest flaw of the Kyoto Protocol. This is largely due to the uncertainty regarding afforestation, reforestation, and deforestation and their effects. Moreover, the language that is used in the protocol is not particularly clear and allows for a wide range of interpretations. Second, the Kyoto Protocol allows for the retroactive application of any decision on additional human-induced activities for the first commitment period. This creates even more uncertainty in regard to the actual scope of a party's obligations. Third, the inclusion of sinks considerably reduces the obligations of a number of parties. The US administration has announced, for example, that its own obligation of 7 per cent reduction of GHGs with sinks equals a 4 per cent reduction without them. Thus, taking into account the 1 per cent reduction of its target due to the use of a 1995 baseline for the three GHGs, the US calculates its obligation as a mere 3 per cent reduction, which is much closer to the stabilization target originally proposed by President Clinton. Finally, perhaps most damaging is the fact that the inclusion of sinks might undermine the verifiability, and thus the credibility, of the Kyoto Protocol. It is of utmost importance, therefore, that future COPs clarify this issue in order to prevent an erosion of the protocol's legitimacy and effectiveness.

The EC succeeded in introducing its "bubble concept" into the final text of the protocol (Article 4). According to this concept, any group of Annex I parties may, upon ratification, notify the Secretariat that they intend to jointly fulfil their obligations under Article 3. The notification must set out the respective obligations for each party to such an agreement and will remain operative for the duration of a full commitment period. Under this arrangement, the accession of new members to the EC would not affect EC "bubble" arrangement for this period. Under an EC bubble, as long as the EC achieves its overall reduction target of 8 per cent, the community, as well as all of its member states, would be deemed to be in compliance. Should the EC fail to achieve its own target, the community (since it is also a party to the protocol), as well as those individual member states that have not achieved their target under the notified agreement, will be

held responsible (Article 4.6). Should the parties establish a non-compliance procedure, the EC might thus be faced with sanctions under this mechanism.

The burden sharing arrangement, which had been agreed to by the Environment Council in March, will have to be renegotiated due to the inclusion of three more gases and the inclusion of sinks in the Kyoto Protocol. Nonetheless, the EC and its member states did not fare well in these negotiations. They failed, above all, to communicate the importance of the "bubble" to their partners and were not able to agree on legal language until late in the autumn. Furthermore, their first proposal contained some provisions that would have allowed the EC and its member states utmost flexibility. This was not only unacceptable to many other industrialized and developing countries, but it also undermined the EC's credibility to press for higher reduction targets for all industrialized countries. It should be noted that Article 4 is framed in general terms and also allows other Annex I parties to enter into bubble agreements (which could be termed "trading without rules"). Already at COP-3, the US, Japan, Canada, Australia, New Zealand, and Russia were engaged in bubble negotiations. This general bubble provision has the potential to create a loophole in the protocol's obligations. No mandate to negotiate further rules for "bubbling," however, has been given to the COPs so far.

(B) Flexibility Instruments: Emissions Trading, Joint Implementation, and the Clean Development Mechanism

In the negotiations of flexibility instruments, the United States placed top priority on reaching an agreement on certain economic instruments that would provide "flexibility" in the implementation of the reduction obligations. First among them was the possibility to "trade" surplus emission reductions with other parties. This demand, which was announced by the US at COP-2 in July 1996, was met cautiously by most of the European countries and with outright opposition by developing countries. The objections of developing countries were partly based on ethical grounds ("pollution rights") and were used partly as a negotiating ploy against another US demand—the inclusion of developing country commitments. Furthermore, developing countries feared, as did the EC, that trading might provide a cheap way for the US, Canada, Australia, and New Zealand to "buy" themselves out of their obligations.

The compromise that was finally reached incorporates these different considerations. At some point during the last night of negotiations, the article on emissions trading disappeared from the draft, only to resurface in rudimentary form in the unlikely location of Article 16bis, situated between the clauses on a "multilateral consultative

process" and on "non-compliance." Only the basic principle has been incorporated into the Kyoto Protocol (now Articles 17, 3.10 and 3.11). Parties included in Annex B may participate in emissions trading for the purpose of complying with their obligations. This shall be supplemental to domestic action, with the relevant principles, modalities, rules, and guidelines to be defined by the COP.

Some confusion exists with respect to the starting date of emissions trading. Whereas the US and Canada believe that trading should start immediately, the EC and others claim that the relevant rules of the mechanism will have to be established first. The latter interpretation appears to be correct for two reasons. First, the order of the first two sentences of Article 17 was changed at a very late stage so that the establishment of relevant rules would appear first in the text. This was done in order to accommodate the concerns of the EC and the G-77. This semantic interpretation, therefore, points to a compromise that should not be disregarded. Second, on a political level, the establishment of an effective trading system requires certainty and credibility. These two elements simply cannot be achieved without basic rules agreed upon beforehand, especially in regard to the issues of verifiability, reporting, and accountability. A system without adequate rules does not make sense, either economically or politically.

As intriguing as the theoretical concept of emissions trading might be, the huge emission reductions in Russia and the Ukraine since 1990 as a result of economic disruptions could transform Article 17 into a "loophole" that might considerably weaken the protocol targets. Russia's current emissions of carbon dioxide are approximately 30 per cent below the 1990 level. Those of the Ukraine are even lower, and, in both cases, emission levels are expected to remain substantially below the 1990 levels during the 2008-2012 commitment period. This so-called "hot air" constitutes a "reservoir" from which Western countries might cheaply buy emission credits. The mere possibility of such a solution might prevent some countries from undertaking any serious domestic action. The German environment minister has therefore called for a 50 per cent cap on the percentage of a country's obligation that can be achieved through trading. As outlined earlier, these rules will have to be negotiated during the next two or three years.

Joint implementation (JI) is the second of the flexibility instrument that has been incorporated into the Kyoto Protocol. An agreement on the establishment of a JI mechanism at COP-1 had not been possible because many industrialized countries insisted on the participation of developing countries in this mechanism. Instead, a pilot phase of "activities implemented jointly", without any crediting of achieved emission

reductions, was established until the end of the decade. At COP-3, after industrialized countries had taken on substantial obligations and dropped the demand for developing country participation, joint implementation with crediting among Annex I countries was possible, and passed negotiations (Article 6).

The basic concept of JI, which should be supplemental to domestic actions (Article 6.1(d)), has been known for some time and need not be elaborated here. However, two aspects are worth mentioning. First, Article 6.1 refers to Annex I of the UNFCCC and not to Annex B of the Kyoto Protocol. This provision not only reduces the incentives for Annex I countries to ratify the protocol but also allows countries to take part in JI without taking on legally binding obligations by becoming a party to the protocol. The absence of an emissions cap therefore requires the rules and guidelines for JI to be as strict as if developing countries were participating. Second, any party may authorize certain legal entities to participate, under its responsibility, in JI activities (Article 6.3). This paves the way for extensive private sector participation and thus further highlights the need for clear and verifiable guidelines. The Meeting of the Parties to the Kyoto Protocol is mandated to elaborate the guidelines for the implementation of JI (Article 6.2). In the meantime, COP-3 instructed the subsidiary bodies of the UNFCCC to examine these matters with a view to their consideration by COP-4.

A modified version of JI was included in the Kyoto Protocol with respect to project-based activities in developing countries. The parties established a Clean Development Mechanism (CDM) in order to assist Annex I parties in achieving compliance with part of their obligations (Article 12.2). The negotiation history of this mechanism, which was originally proposed by Brazil as a "clean development fund" under a compliance regime, is rather complex. Nevertheless, it is quite obvious that the CDM is a type of institutionalized JI, especially since it derives most of its language from the provisions of Article 6. Under the supervision of an executive board, private and public funds are to be channelled through this mechanism to finance projects in developing countries. As in the case of JI, but with slightly different wording, any party "may involve private and/or public entities" in the regime.

As with JI, the specific modalities and procedures of the CDM will have to be elaborated by the parties. Due to the EC's lack of attention in the final hours of negotiations, emission reductions that are achieved from 2000 until 2008 may be banked and credited towards industrialized countries' obligations in the first commitment period. The hasty drafting of many provisions of the Kyoto Protocol is also visible in Article 12. While emission reductions may be banked after 2000, it is up to the Meeting

of the Parties to the protocol to elaborate the specific rules. Since the Kyoto Protocol is unlikely to enter into force before the year 2000, however, this task will have to be carried out by the COP to the UNFCCC. One innovative aspect of the CDM is that a "share of the proceeds" from project activities is to be used to cover its administrative expenses. Another part of those proceeds is to be used to assist particularly vulnerable developing countries to meet the costs of adapting to a changing climate.

(C) Developing Countries

China and the G-77, as the group of approximately 130 developing countries is commonly known in the sphere of multilateral diplomacy, got involved in the main negotiations at a rather late stage. This was mainly due to the fact that negotiations between the major industrialized nations had not been resolved until this point. The Berlin Mandate, which was adopted at COP-1, specifically provided that the "protocol or another legal instrument" adopted by COP-3 should not contain any new commitments for developing countries. Nevertheless, at the end of the first week, New Zealand, perhaps on behalf of the United States, proposed a rather detailed timetable for the negotiations of such commitments, which effectively ended negotiations for that day. Thirty developing countries took the floor and vehemently protested against this proposal.

In the early morning of 11 December, developing countries blocked the adoption of an article that would have provided for their voluntary participation by accepting an obligation to limit future emissions and thus be included in Annex B of the protocol. Although this draft provision drew some support from Latin American countries and members of the AOSIS, countries such as India and China did not want to create a new category of parties. As the Kyoto Protocol stands now, developing country commitments are restricted to voluntary participation in the CDM and to the undertaking of general commitments according to Article 10. Using the same approach as Article 4.1 of the UNFCCC, Article 10 contains, for all parties, general obligations to formulate national programs and develop political, as well as scientific, cooperation.

(D) Other Matters

Other provisions of the Kyoto Protocol deal with "policies and measures" review of the protocol, non-compliance, institutional questions, and ratification. The EC devoted a considerable amount of time and energy during the negotiations to an elaboration of several lists of policies and measures with different levels of bindingness. However, the EC did not succeed in including a list of prescriptive policies and measures that would

have to be implemented either as common measures or that would be compulsory for all parties. Instead, at the insistence of the US and other non-European industrialized countries, Article 2 of the Kyoto Protocol merely stipulates some rather general obligations to improve energy efficiency, promote sustainable forms of agriculture, reduce "market imperfections," such as fiscal incentives and subsidies, and take measures to limit and/or reduce emissions from the transport sector (Article 2.1(a)). In regard to aviation and marine bunker fuels, parties are called upon to seek a limitation and reduction of emissions through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) (Article 2.2).

Article 8 of the Kyoto Protocol provides for an in-depth review of the information submitted in accordance with Article 7 and is modelled after the review procedure elaborated by parties in the UNFCCC. Article 7 requires the Annex I-Parties that are Party to the Protocol to include in their annual inventory of GHG emissions and sinks "the necessary supplementary information for the purposes of ensuring compliance with Article 3" of the Protocol. This is first and foremost information on GHGs other than carbon dioxide. Second, "each Party included in Annex I shall incorporate in its national communication submitted under Article 12 FCCC the supplementary information necessary to demonstrate compliance with its commitments under this Protocol". The information shall be reviewed by "expert review teams" coordinated by the Secretariat according to a procedure (including country visits) that follows in large part the "in-depth review procedure" developed under the Convention.

A non-compliance procedure shall be approved by the Meeting of the Parties to the protocol, including an indicative list of consequences (Article 18). Its effectiveness might be somewhat impaired, however, because the US insisted that any binding consequence under the mechanism will have to be adopted by means of an amendment to the protocol. One lesson to be learned from the procedure elaborated in the framework of the Montreal Protocol on Substances That Deplete the Ozone Layer, however, might be the necessity for "consequences" being adopted by way of a decision that provides for a uniform application to all parties instead of making its application dependent on the prior consent of a Party. A possible solution might be the adoption of an amendment and the subsequent provisional application by way of a decision of the Conference of the Parties serving as the meeting of the Parties.

The multilateral consultative process—a "help-desk function" that is currently negotiated under Article 13 of the UNFCCC—might be applied to the protocol (Article 16). It was not possible to incorporate an express provision for the "review of the

adequacy of commitments." This was particularly disappointing for many delegations that were seeking progress in the years to come, in view of the fact that such a provision was of vital importance for both the development of the UNFCCC and for the negotiation of the Kyoto Protocol. Article 9, however, does provide for a "periodical review" of the protocol, with the first one to take place at the second Meeting of the Parties to the protocol. This wording does allow for a regular review of commitments, although it lacks a specific timetable.

The institutional arrangements of the Kyoto Protocol were the subject of intense negotiations. The majority of parties did not want to establish any new institutions, partly for reasons of "institutional economy" and partly in order to keep as much power in the hands of the UNFCCC's bodies as possible. Accordingly, the Kyoto Protocol does not expressly establish any new institutions and any further negotiations until the entry into force of the Protocol, any further negotiations on its outstanding issues will be conducted within the Convention's bodies. As a result, the protocol's Secretariat (Article 14) and its subsidiary bodies (Article 15) shall be those of the UNFCCC. Article 13.1 further states that the COP to the UNFCCC will also serve as the Meeting of the Parties to the protocol. In fact, throughout the protocol, the supreme body is referred to as "the Conference of the Parties serving as the Meeting of the Parties."

The institutions under the Kyoto Protocol are characterized by a rather hybrid nature. As stipulated in Article 17.5 of the UNFCCC, the Kyoto Protocol reiterates the principle that decisions made under the protocol shall be taken only by those that are parties to it (Article 13.2). Non-parties to the protocol may participate in the proceedings as observers. Furthermore, those members of the Bureau of the COP that are not party to the protocol shall be substituted by an additional member (Article 13.3). The same rules for voting and membership that apply to the bureau apply to the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation under the protocol (Article 15.2 and 15.3). Despite the language used in Articles 13.1 and 15.1, the institutions established under the Kyoto Protocol can thus be considered to be separate bodies from those serving under the convention. The ambiguous language will create problems for the Secretariat, however, since the budgeting and the allocation of costs will be made much more difficult.

Finally, the entry-into-force provision of the Kyoto Protocol merits some attention. It has been designed in such a way as to require participation by all major polluters. This should be welcomed in principle because the protocol needs a certain "critical mass" to be effective, and there are valid concerns in regard to the potential "leakage" of GHG

emissions to non-parties. However, the threshold for ratification appears to be unnecessarily high. Article 25 of the protocol employs a "double-trigger." It not only requires ratification by fifty-five parties to the UNFCCC, but the Annex I parties who ratify the protocol must account for/represent at least 55 per cent of the total carbon dioxide emissions of Annex I parties in 1990. In order to avoid uncertainty as to the exact numbers, the authoritative data is that which is communicated by the parties in their first national communication, according to Article 12 of the UNFCCC.

This threshold confers upon the US a de facto veto power since it comprised no less than 35 per cent of Annex I emissions in 1990. If the US does not ratify the Kyoto Protocol, virtually all other industrialized countries will have to accede to the protocol in order for it to enter into force. Given the very slow and uncertain ratification procedure in the US Congress, the protocol's entry into force will inevitably be delayed until some time after the year 2000. Besides the US, the EC was partly responsible for this high threshold, since it was unwilling to assume any obligations without the US's ratification.

(4) The Way Ahead

The Kyoto Protocol, despite its apparent flaws, should be regarded as a milestone in the history of climate protection. It provides a relatively sound basis on which to proceed into the next century, although the inclusion of sinks will be problematic. If the protocol is ratified by the US, it stands a good chance of evolving into a truly effective instrument. Much will depend on the decisions that are made at the next several COPs, which will undoubtedly face considerable workloads. Already COP-4, which will be held in November 1998 in Buenos Aires, will have to deal with the specific rules regarding emissions trading, joint implementation, and the possible inclusion of further categories of sinks into the inventories. Additional tasks include the development of rules for the CDM, the future participation of developing countries, and the elaboration of a non-compliance procedure. These last issues, while not referred to the convention's bodies by the protocol, will nevertheless have to be resolved before its entry into force.

It is therefore very likely that the Kyoto Protocol will enter into force only in some amended form, either formally amended or amended by way of extensive decisionmaking. Formal amendments might, for example, be necessary to allow for the participation of developing countries or for the adoption of a non-compliance procedure involving binding consequences. The trading system, on the other hand, might only need to be elaborated through decisions of the COPs. Furthermore, the parties to the

protocol will have to resolve one of the biggest problems, which also faces the UNFCCC, namely, the voting procedure. Like the convention, the Kyoto Protocol lacks any provision on voting, except in relation to the adoption of amendments and annexes, which require a three-fourths majority (Articles 20.3 and 21.4). For the protocol to be truly effective, however, some kind of majority voting is essential.

The Kyoto Protocol, therefore, does not represent a final solution to the manifold problems confronting the international community in regard to cooperation on climate change. It does, however, provide a sound basis for international climate policy in the next century. Finally, and perhaps most importantly, it does send a clear signal to policymakers, industry, and other relevant domestic actors that climate change has been firmly placed on the world's agenda. Because of its far-reaching implications for the way we produce and consume, the Kyoto Protocol is likely to affect the life of every person living on this planet in the next century more than any other international agreement.